

REMARKS

Applicant has carefully reviewed and considered the Office Action mailed on November 19, 2003, and the references cited therewith.

Claims 57-59 are amended, no claims are canceled, and no claims are added; as a result, claims 46, 47, and 57-82 remain pending in this application.

§112 Rejection of the Claims

Claim 57 was rejected under 35 USC § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The rejection states that, “claim 57 fails to be supported by the specification because said exposed silicon base layer of the contact hole is not explicitly disclosed to be crystalline.” Applicant has amended claim 57 to remove the term “crystalline.” Applicant respectfully submits that the rejection is therefore moot. Reconsideration and withdrawal of the 35 USC § 112, first paragraph rejection is respectfully requested.

§103 Rejection of the Claims

Claim 57 was rejected under 35 USC § 103(a) as being unpatentable over Xing et al. (U.S. Patent No. 6,153,490) in view of Ikeda et al. (U.S. Patent No. 5,239,196).

The rejection states that Xing teaches “a contact having a titanium alloy layer 908 (cf. col. 10, l. 5) formed overlaying walls of a contact hole 904/906/908 (cf. col. 9, l. 59) formed overlying an exposed crystalline silicon base layer 904 (cf. col. 10, l. 4) of the contact hole the titanium silicide layer 906 being directly coupled to the titanium alloy layer 908.”

Xing appears to show a silicide layer 906 coupled to a polysilicon plug 904, however, Xing does not show a layer of a titanium alloy formed overlying walls of a contact hole and a titanium silicide contact having a composition that is different from the layer of titanium alloy, the contact being directly coupled to the layer.

In contrast, claim 57 includes a layer of a titanium alloy formed overlying walls of a contact hole and a titanium silicide contact having a composition that is different from the layer of titanium alloy, the contact being directly coupled to the layer.

Applicant respectfully submits that the additional reference of Ikeda fails to cure the deficiencies of Xing as outlined above. Because the cited references, either alone or in combination, do not show every element of Applicant's independent claims, a 35 USC § 103(a) rejection is not supported by the references. Reconsideration and withdrawal of the rejection is respectfully requested with respect to Applicant's independent claim 57.

Claims 58-59 were rejected under 35 USC § 103(a) as being unpatentable over Ikeda et al. in view of Xu et al. (U.S. Patent No. 6,217,721).

The rejection states that Ikeda shows "a contact opening or via or contact having a titanium alloy layer formed in a contact hole." Ikeda appears to show a connection hole 28, however, Ikeda does not show a layer of a titanium alloy formed overlying walls of a contact hole and a titanium silicide contact having a composition that is different from the layer of titanium alloy, the contact being directly coupled to the layer.

In contrast, claims 58 and 59 include a layer of a titanium alloy formed overlying walls of a contact hole and a titanium silicide contact having a composition that is different from the layer of titanium alloy, the contact being directly coupled to the layer.

Applicant respectfully submits that the additional reference of Xu fails to cure the deficiencies of Ikeda as outlined above. Because the cited references, either alone or in combination, do not show every element of Applicant's independent claims, a 35 USC § 103(a) rejection is not supported by the references. Reconsideration and withdrawal of the rejection is respectfully requested with respect to Applicant's independent claims 58 and 59.

Allowable Subject Matter

Claims 46-47 and 60-82 were allowed. Applicant acknowledges and thanks the Examiner for allowance of these claims.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 373-6944 to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.


Respectfully submitted,

GURTEJ S. SANDHU ET AL.

By their Representatives,

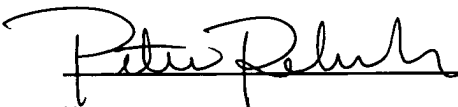
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop RCE, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 11th day of February, 2004

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